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## LOGGING OPERATIONS LICENSED IN PROPOSED PARK AREA

### Federal Intervention Seen

Kuala Lumpur BUSINESS TIMES in English 7 Sep 77 p 4

[Text]

**THE FEDERAL** Government is likely to step in soon to put a stop to the controversial logging operation in the core area of the proposed Endau-Rompin national park, according to reliable sources yesterday.

The sources said the Federal Government which had been studying the issue closely would intervene to stop logging in the park if the Pahang Government did not do so in the near future.

Logging operation which began in April in the Pahang portion of the core area of the park which lies astride the Pahang-Johore border had brought about strong public protest on grounds that logging would damage the ecology and environment of the park and threaten the survival of wildlife, particularly the near-extinct Sumatran rhinoceroses.

So far, the Pahang Government had issued eight logging licences covering about 15,000 acres of the 30,000 acres already set aside for logging concession out of a total area of 96,000 acres of Pahang's share of the proposed park.

Sources said the timber in the park was being extracted by a syndicate which had contracting rights from the licensee and the logs were exported to Singapore.

Though the Pahang Government had not issued any public statement on the logging operation, it is learnt that it is still abiding by its earlier decision to log the park to collect revenue.

## Pahang Government Criticized

Kuala Lumpur NEW STRAITS TIMES in English 5 Sep 77 p 14

[Editorial]

[Text]

The Pahang Government is about to issue logging licences for another 6,000 acres in the Endau-Rompin National Park. On this issue, it has shown itself to be unresponsive to Malaysian public opinion and the opinion of Pahang's own populace; it has been irresponsible to the interests of the State, its people and Malaysia. The granting of licences to log more than the 10,000 acres already conceded will be a rebuff to the Federal Government which only on Wednesday expressed the hope that the Pahang Government would have second thoughts about issuing more licences. The argument that the State Government is putting human welfare above animal survival is, to put it mildly, not valid.

So far, 8,000 acres have been cut down. Based on the current average price of \$150 per ton and an average yield of 15 tons per acre, these 8,000 acres have yielded a gross return of \$22.5 million. The entire concession area of 30,000 acres is, on this calculation, worth a gross \$67.5 million. Where will the millions go? Who will reap the benefits of the irresponsible exploitation of Endau-Rompin? Is it the people of Pahang?

The environmental reasons for preserving the National Park and exploiting it in ways other than cutting the trees down are strong. Add to this the human welfare and economic considerations and the case is overpowering. Even before a single logging licence had been issued in fact, the Pahang State Exco had been informed that logging would damage the river systems in Pahang Tenggara and affect the supply of water to the projected 500,000 settlers in the gigantic land scheme (where the rainfall rate is among the lowest in the country). Excessive silting will cause floods, excessive erosion will destroy valuable land; water pollution will kill fish, undermine the nutrition and therefore the health of riverine kampungs. Human welfare must indeed be put first. It rests with the Federal Government to persuade the Pahang Government to halt the damage to Endau-Rompin.

CSO: 5000



POLLUTION CONTROLS BY SABAH COPPER MINE

Kuala Lumpur NEW STRAITS TIMES in English 5 Sep 77 p 9

[Text]

**KOTA KINABALU, Sun.** — Overseas Mineral Resources Development — a Japanese-Malaysian copper mining company operating in Ranau, 70 miles from here — is to spend about \$34 million on anti-pollution measures in the next few years.

The amount, however, could be more if the pollution problem could not be resolved, a senior official of the firm said here today.

About \$30 million of this sum has been spent on the construction of a tailing pipe with drop tank, a tailing dump and a tailing thickener, said Mr. George C. Yapp, the firm's assistant manager (administrative and general affairs).

He said the company had also spent about \$210,000 on water supply for the seven kampungs in the areas affected by the pollution, especially in the Lohan river.

**Concrete dam**

The measures were to minimise pollution brought about by the mining of copper which had affected about 400 families.

Nearly 1,000 acres of land, mostly padi fields, were affected by the pollution of the river.

Mr. Yapp said the firm also wanted to construct a concrete dam as a first barrier, followed by a land terrace, to reduce the amount of silt flowing down. A silt settling pond had been constructed on the irrigation channel. — Bernama.

CSO: 5000

PEOPLE'S REPUBLIC OF CHINA

PRC OFFICIAL ADDRESSES UN COMMITTEE ON ENVIRONMENT

OW231046Y Peking NCNA in English 0910 GMT 23 Oct 77 OW

[Text] United Nations, October 22, 1977 (HSINHUA)--Chinese representative Wu Hsiao-ta told the Second Committee of the United Nations General Assembly yesterday that the environment issue is not an isolated one but is intimately linked with the international political and economic situation.

"Only the abolition of the old international economic relations and the establishment of a new international economic order through the active struggle of their national economy and the effective resolution of environmental problems," he declared.

In his speech yesterday at the Second Committee (Economic and Financial) on the item "United Nations Environment Programme", the Chinese representative declared, "Protection and improvement of the environment is an important question with implications in the economic development and the well-being of people of all countries. In today's world, there actually exist two distinct kinds of environmental pollution. In some developed countries, monopoly capitalist circles, driven by a greed for superprofit, see nothing wrong in discharging large amounts of noxious wastes into the environment and their reckless exploitation of natural resources has led to serious pollution and erosion of the environment. On the other hand, environmental problems in Third World countries arise mostly as a result of underdevelopment, which in turn has its root cause in the aggression, exploitation and plunder perpetrated on them over a long period of time by imperialism, colonialism, neo-colonialism and hegemonism. Thus, the environment issue is not an isolated one but is intimately linked with the international political and economic situation. It is clearly an integral part of the struggle to establish a new international economic order."

He continued, "A certain superpower likes to tout the inter-relationship between disarmament and detente on the one hand and the protection of the environment on the other. Of late it has been sounding apocalyptic by playing up the question of so-called 'environmental warfare'. It is common knowledge that the superpower in question is second to none in arms expansion and war preparations. This propaganda campaign mounted by it does not attest to a genuine wish to resolve environmental problems, but rather represents an attempt to take advantage of the widespread concern over environmental preservation to peddle its fallacious and spurious notions of disarmament and detente and to lead astray the struggle of the Third World to abolish the old and establish the new in the international economic arena."

Referring to the links between development and environment, he declared, "We view development and environment as two opposites constituting a unified whole, the two being mutually constraining and mutually reinforcing at the same time. Correct handling of this question is of great importance to the developing countries. To be sure, development is accompanied by problems of pollution. But, more important, development creates preconditions for enhanced capacity to protect the environment. We can only solve environmental problems as we develop steadily. To slow down or stop the development of national economy would be putting the cart before the horse. We believe that so long as the developing countries give thought to comprehensive planning and multipurpose utilization of resources and actively adopt measures to prevent pollution, the contradiction between environment and development can be resolved."

On the prevention and control of desertification, Wu Hsiao-ta said, "Desertification, like other environmental problems, is not an isolated or purely technical question. Although nature plays a part in desert formation, desertification also has important social causes.

"Only when Third World countries free themselves from imperialist, colonialist, neo-colonialist and hegemonistic exploitation and plunder, become master of their own natural resources and endeavor to develop their national economy can necessary conditions be created for the prevention and control of desertification.

"Our own experience has led us to the profound conclusion that in a task as arduous as desert control, national and local conditions must be taken into consideration in the preparation of appropriate plans of action and that it is essential to fully tap the strength and wisdom of the masses, organizing them into a mammoth army of desert fighters so that an effective campaign can be conducted against desertification. This is the principle of self-reliance and it is the most reliable way for the developing countries to control desertification.

"International cooperation conducted on the premise of self-reliance is also needed. Many countries have accumulated a wealth of experience in their fight against deserts. Cooperation and exchange of experience on the international and interregional levels and among the Third World countries in particular will help nations to combat desertification more effectively. It goes without saying that such international and inter-regional cooperation and activities must be conducted according to the principle of respect for national sovereignty and on a voluntary basis and must be guided by the spirit of consultation on an equal footing. Desert control is a massive and arduous struggle. We believe that so long as correct principles are adhered to and unflagging efforts are made, the detrimental effects of desertification can be progressively overcome", the Chinese representative said.

The Second Committee discussed the environment question from October 17 to 21. Many speakers urged the United Nations Environment Programme (UNEP) to play its role in promoting cooperation and exchange of experience in the field of environment.

CSO: 5000

## ALBANIA

### MORE EFFORT NEEDED TO COMBAT POLLUTION

Tirana ZERI I POPULLIT in Albanian 31 Aug 77 p 3

[Article by Prof Llambi Zicishti, Minister of Health: "The Health of Individuals Cannot Be Safeguarded Without Protecting the Environment from Pollution"]

[Text] The 7th Party Congress set great tasks to protect the health of the people. Taking a high place among these duties is the strengthening and expansion of hygiene and health preventive measures. As a result of the numerous steps taken we have from year to year achieved satisfactory improvements in all the index figures of the health of the people, such as demographic figures, figures on illnesses, physical development, nutrition, good upbringing of children, and so forth.

The expansion of the network of various kinds of health institutions and in more remote areas of the fatherland, the progressive increase in the number of high, medium, and low level medical cadre and the continuous improvement of their ideological-professional training, and finally the supplying of the institutions with equipment and apparatus which meets the needs of the times have enabled our health service to fulfill the needs of the people better and better. But in the general area of the protection and enhancement of the health of our people, the main role is played by the measures which prevent illnesses. Hence the profoundly preventive guidelines which our party has given to our health service.

Among the main measures which prevent diseases, first place is taken by those measures which have to do with making the environment more healthy where the individual lives and works.

People necessarily have contact with the air, the earth, the water. But in these three main elements of nature biological forms and physical and chemical substances are found and develop which can develop health. The air, for example, contains microorganisms which cause diseases, substances which can produce allergic reactions (dust, pollen, mold and so on); the air is

polluted by carbon monoxide, sulfur dioxide, vapors of lead, hydrogen sulfide, chlorine, and so on. Likewise the earth contains parasites and bacteria, various toxins from production wastes, pesticides, and so on. Water can be polluted by organic materials which decompose, by toxic heavy metals, by many micro-organisms which cause diseases of epidemiological nature, such as salmonella, jaundice, intestinal typhoid, and so on. The sources of drinking water--springs, wells,--can easily become polluted when they are not protected according to the set regulations; river, lake and sea water can be polluted by the heedless discharge of industrial wastes, by discharging sewage from cities, by ships, and so on.

With the numerous factors which can damage health kept well in mind, it is obvious that there is great importance in establishing a suitable ecological equilibrium between the person, his surroundings, and the whole environment which surrounds him. All measures of a health and social nature which have been taken in Albania since Liberation have helped to establish this equilibrium and to purify and protect the environment from pollution. And today, as a result of the comprehensive progress which has been made in our country and thanks to the constant improvement of living conditions, including hygienic conditions, the incidence of contagious diseases has lessened considerably and they now occupy seventh place on the list of illnesses.

The protection of the environment from pollution has taken on special importance after the issuance of the relevant decree by the Presidium of the People's Assembly and especially after the approval of the Constitution of the People's Socialist Republic of Albania. By being raised to a constitutional norm, the question of the protection of the environment from pollution has become obligatory for all. Consequently, we must reject any restrictive concepts which claim that since environmental protection is related to health, it is the concern only of the health organs and workers and they must deal with the problem and take the relevant legal measures.

Likewise, some people think that the pollution of the environment is caused mainly by gaseous, liquid, or solid industrial wastes and that if we take care of them, everything will be all right. And this is a narrow view of the problem. We must admit that potential dangers of environmental pollution are present everywhere, in our residences, in gardens, in the places where we work and where we vacation, if the hygiene and health norms are not respected by everyone. According to the teachings of the party, therefore, special attention and importance must be devoted to the health education of the people so that each of us, by safeguarding the clean surroundings where he lives and works, will contribute actively to the maintenance of the cleanliness of the entire surrounding environment. This will be aided by the struggles and initiatives which have been made and are continuing to be made both in the cities and the villages to make the country still more hygienic.

But, nevertheless, indoctrinating work with individuals and their education lies at the basis of the work to safeguard a clean environment. A very important place is occupied by our health laws which sanction a series of

norms which must be obeyed by all. The health organs, armed with a law as strict as the law on the state health inspectorate, have had the hygienic-sanitary condition of work centers and residences under continuous surveillance for the last 25 years and when they have found flagrant violations of the health norms they have taken the relevant strict measures.

We can say that our country, in comparison with many other countries of Europe, has a generally clean environment. But in view of the great, feverish development of our industry and other sectors of the economy, the possibilities for pollution have grown.

The protection of the environment, especially from various industrial discharges into the air, earth, and water, is not an easy thing. Considerable funds often must be invested to make these discharges harmless. In contrast to what happens in the capitalist and revisionist countries, our state does not spare anything to implement the necessary steps to protect the environment by placing the necessary means and equipment for purifying in the industrial facilities. Likewise, a number of studies have been made in this field in the last few years to find and ascertain the production sectors which influence the pollution of the environment with gaseous, liquid, and solid materials. Determinations have been made on the physical-chemical quality of industrial waters which are discharged into rivers (Tirana, Berat, Fier). In light of the legal norms, the concentrations of harmful gases and vapors and dust which harm the environment (in naphtha enterprises, and in copper and metallurgy factories) have been set. Studies have been made to systematize the solid wastes of production in order to utilize them.

In the last four years all central ministries and institutions, executive committees of the people's councils of the districts, economic enterprises of all kinds, agricultural cooperatives and social-cultural institutions have taken a series of steps to protect the environment from pollutants and have attained a number of successes. But, as it was seen in the national health aktiv which was held this April, the struggle to protect the environment from pollution is still not being waged as it should be: planned, systematic, and on a more scientific basis. Commissions especially created in ministries and executive committees do not function as they should; environmental production groups in production work centers and agricultural cooperatives have engaged in little activity; often there are delays in the planned duties. Ministries, and the Ministry of Industry and Mines in particular, have not established everywhere the laboratories which must exercise constant inspections to prevent the pollution of the microenvironment where the workers work and the environment in the enterprise and its surroundings. And in those districts where these laboratories have been established, their work is still limited to measurements within the enterprises, neglecting the problem of wastes discharged from them.

Shortcomings are also noted in the discipline of disposing of household and industrial wastes in the designated places. In some cases, the discharge of city sewage does not comply with the hygiene and health standards set; in

some other cases it is discharged into the sea in the vicinity of some beach, and so on. Some of the polluted sewer water is discharged, unprocessed, into rivers and particular cases have been noted where unprocessed sewage has been used to irrigate vegetables, with the danger of spreading intestinal infections, and so on.

Despite all the demands made, some large industrial enterprises and plants still are not doing the necessary work to complete the installations and other equipment for cleaning. Thus, for example, the technology for rendering harmless the waters which are discharged from the leather factories has not been worked out yet, nor is the work being properly done to purify the gases which accompany naphtha from poisonous materials both in the source and during distribution. Better work must be done in particular to detoxify the gases which escape from the copper smelter in Kukes, and to eliminate or minimize the harmful effects of toxic materials in the polyvinylchloride factory in Vlore, the superphosphate factory in Lac, and so forth. As a result of inadequate measures for the collection, disinfection and decomposition of garbage from communal enterprises, especially during the summer, there is a danger of the development of carriers which transmit various contagious diseases.

In many cases these shortcomings have come about as a result of silent consent by the organs of the State Health Inspectorate and by the basic and central environmental protection commissions.

The health organs, and especially those of the Health Inspectorate, must not limit themselves to inspection measures alone, but they must also be study organs. Therefore, for the near future and the distant future we need studies to be undertaken jointly by the specialized health organs and those of the other involved ministries. To do this it is necessary that the ministries concerned and the central institutions take all the measures which the government demanded to create laboratories and to operate them at full efficiency in the analysis of pollutants which are discharged into the environment. In this area special attention must be given to the important problems of work hygiene, the recognition of and struggle against signs of occupational diseases by studying thoroughly harmful factors such as dust, toxic materials, vapors, gases, noise, and so on. The doctors of the mobile service, especially those of the work centers and villages, have an important role in this.

Apart from the shortcomings we have mentioned, rich and good experience has been gained in the last few years on the problem of protecting the environment and the theoretic and practical management of the serious problems in this field. Nevertheless, the Ministry of Health, in cooperation with other ministries and with the executive committees, must struggle harder to disseminate this experience and to handle the important problems in this field through various means, such as confrontations, seminars, consultations, scientific sessions, and so on.

It is an important duty for us to make progress on the problem of protecting the environment from pollution during this five-year period by making it the concern of all our people, young and old, and by deeply implanting the conviction and teaching that the protection of health cannot be understood apart from the maintenance of a clean environment.

Protection of the environment from pollution has to do with the protection of the health of the people; viewed in this perspective, it takes on a broader political significance. Therefore it must attract more attention not only from the state organs on all levels and the mass organizations, but also from each individual citizen.

CSO: 5000



## BULGARIA

### CAUSES OF BLACK SEA LAKES POLLUTION OUTLINED

Sofia ZEMEDEL'SKO ZNAME in Bulgarian 15 Oct 77 p 2

[Article by Vasil Tsanev: "Let Us Return Life to the Black Sea Lakes"]

[Text] "Hurry, get your crabs, crabs! Live, cooked Gebedzhe crabs!" With this shout, scores of barefooted saleswomen ran up from both sides of the trains when they were slowing down before stopping at Gebedzhe Station (now Beloslav Station), coming from the interior of the nation. And hundreds of hands stretched out through the windows of the cars for small bags of old fishing net in which live crabs moved slowly or cooked crabs turned red.

From Lake Gebedzhe a small brigade of fishermen delivered magnificent mullet to Varna, and from this the Varna housewives prepared an unsurpassable meal. On the shores of Lake Varna which at that time was connected by a short and narrow cannal with Lake Gebedzhe, in front of the old station, sunburned fishermen pulled in full nets with "kaya" (a small Black Sea fish) which in kilogram baskets often literally inundated the "Queen of the Black Sea," and perfumed it with the aroma of fried or marinated fish....

Recollections from 20 years ago! And even earlier. Far back in them, quite naturally, is a nostalgic consideration, but this is not the essence. The desire for a clean, healthy and rich nature this is the basic thing which returns these recollections to our conscience. Because today in the lakes around Varna (those which still exist) there is neither fish nor crab. But there could be. And even more than before. They could be, but....

The purity of Beloslav (previously Gebedzhe Lake) is the most strongly tainted. At first glance this is improbable, because all of the plants in the Devnya Lowlands, of which the lake is a part, are modern and have few or very efficient purification facilities. And the young town of Devnya possesses the most modern purification station with two stages: for mechanical and biological purification of the water, and with a significant capacity (not completely used). By two conduits the station collects the waste and fecal waters from the city and plants.

Where then does the pollution of the lake originate? We can obtain the answer from the diary of the purification station for the 6 months: over the total 180 days, the installation was out of service for 109 because of breakdowns. Here is why. The station must purify sewage water with a pH (a hydrogen coefficient) from 6.5 to 8. This assumes that the conduits will not receive industrial waters from the plants, because they are more strongly acid or alkali, and there is the danger that the microorganisms in the biological stage will be destroyed. The chemical plants know of this requirement, but very frequently they release production water into the "A" conduit.

The second polluter of Lake Beloslav is...the industrial waters from the chemical plants. By pipeline the water is discharged into the "Padina" slag dump. Here the waters are in fact purified, but the expected chemical neutralizing from the mixing of the acid and alkali waters has not occurred. Why? The mineral fertilizer plant according to the production system first neutralizes its acid waters with lime wash. But the soda plants release heavily alkali waters which after purification in the slag dump enter the lake with the same chemical composition. The mineral fertilizer plant cannot release its acid waters directly into the slag dump because...there is no acidproof pipeline (there are only plans to build it).

Due to technical imperfections in the sulfuric acid shop of the mineral fertilizer plant, it releases, without any provision in the plans (and thus unpurified) significant quantities of sulfuric acid directly into the lake, and as a supplement pollutes the lake with pyrite cinders. This is not even mentioning the undissolved substances which coat the bottom. In such "water," or more accurately acid, even the devil could not exist!

Several words about Lake Varna. The basic polluter here is...the sewage treatment station, the channel of which empties into the northeastern edge of the lake.

The treatment station is extremely primitive and provides only mechanical purification, while its capacity covers only around 30 percent of the actual quantities of sewage water. The remaining nearly 70 percent is released through the emergency channel directly into the lake, without any purification. The "yellow spots" on the surface indicate rather clearly how great the pollution of the lake is in this area, but let us listen to Dr Tsvetana Peeva, the chief of the Communal Hygiene Department Under the Varna Hygiene and Epidemiological Inspectorate:

"Here we do not take samples for chemical research.... This is organized by republic specialists...."

A concise, but meaningful reply, is it not? And can one applaud the chemical laboratory at the hygiene and epidemiological inspectorate for the fact that it tests for water pollution only at the end of the navigation canal which is the purist, but does not examine the area where the discharge canal of the sewage treatment station empties, that is, where thousands of cubic meters of water carrying fecal matter are released?

How can things be straightened out? There is only one answer: in accelerating the construction of a new treatment station. Designed on a modern level, it will have two stages for the mechanical and biological purification of the water, and with great capacity. This will solve the problem for the next several decades. But...over the 2 years around 10 percent of the funds provided for this purpose will be used.

Several other conclusions:

- 1) By strict control and personal sanctions, the chemical plants in Devnya must be obliged not to release industrial waters into the "A" conduit from the Devnya treatment plant.
- 2) The planned acid-resistant pipeline from the mineral fertilizer plant to the "Padina" slag dump must be quickly completed. Up to then the Devnya chemical combines must seek out an opportunity to neutralize the alkali waters released in the slag dump.
- 3) The direct discharge of acid waters and pyrite cinders from the mineral fertilizer plant into the lake must be halted immediately.
- 4) The construction of the new treatment plant of Varna must be accelerated. The task is truly enormous, and if need be, a larger construction organization must be sought. It is now up to the Varna okrug and municipal people's councils.

These measures, combined with the carried out and already existing deep water navigation canals which intensify water exchange between the sea and the lakes, will provide an opportunity to make the lakes clean and to bring back the animal world which previously populated them.

#### Editorial Comment

We have asked Comrade Vulcho Mateev to comment on the problems raised in the article of our okrug correspondent in Varna. Vulcho Mateev is the chief specialist of the Committee for the Conservation of Nature Under the Council of Ministers (KOPS), and he is also a member of the public council for the conservation of nature under the editorial board.

"The questions raised by Comrade Vasil Tsanev are fully valid and rightly greatly concern the community in this beautiful area of our land." Incidentally the problems of the pollution of nature in the Devnya Lowlands by the industrial enterprises located on them and who are the main polluters of Lake Varna and primarily Lake Beloslav, have been an object of commentary in the press before. But the measures to solve them up to now have been insufficient, half-hearted and ineffective. For this reason, upon the initiative of the KOPS, a number of prominent specialists from the ministries of the chemical industry, construction and building materials, agriculture and food industry, power, the forest and lumber industry, and from the Varna okrug people's council, as well as from the plants and enterprises of the

Devnya industrial complex have made a precise evaluation of the condition of the treatment station here, and have given recommendations and specific opinions and instructions as to what must be done in the future and at what time. On the basis of this thorough and sound preliminary work, a detailed schedule was drawn up, and this stipulates the dates for delivering the working plans for the new purification installations, the starting of construction and the final date for completion. The schedule which was approved by the first deputy chairman of the Council of Ministers, Comrade Tano Tsolov, envisages the carrying out of 39 measures at 10 plants, and for this the funds, building and other materials as well as the specific executors have been provided. With the precise observance of the dates established in the schedule, before the end of the Seventh Five-Year Plan, the pollution of the natural environment in the Devnya Lowlands must be eliminated, the destroyed terrain must be recultivated, and new forests planted. By this it may be expected that the problems raised in this article and relating to lakes Beloslav and Varna will be settled.

10272

CSO: 5000

## SEVERE DUST POLLUTION BY NONFERROUS METALLURGY DESCRIBED

Sofia TRUD in Bulgarian 27 Sep 77 p 2

[Article by Ismet Ademov: "Alarm for a Sunny Town"]

[Text] The contrasts between the old and the new here are so great that for a future historian, the development of Kurdzhali could serve as a standard for the creative might of the socialist system. This desolate region in the past, one of the "dead" provinces of the nation, very early felt the beneficial spirit of plant labor and from the first years of liberty reached out to industrialization. Due to the generous Soviet aid materialized in the famous Gorubso [Russian-Bulgarian Mining Company] enterprise, Kurdzhali became the first capital of our nonferrous metallurgy. And as great as the pride in achievements is, so great is the disappointment felt by a person when he becomes familiar with the facts of environmental pollution in the town and its surroundings. Sanitation research has indicated that Kurdzhali is one of the leading places of the nation in terms of atmospheric pollution, and here it is a question of nothing more than the immediate threat to the health of its inhabitants. Where do we begin? Possibly at the Rhodopi MOK [?Mining Combine], one of the large enterprises and at the same time polluters in the town. At one time it was set up in the aim of turning the most widely spread material in the okrug, rock, into a valuable industrial product. The plant's product is widely known in Bulgaria and abroad. But at what price in the sense of human health is this product obtained? If a person visits its shops, he is amazed...by the snowmen in the summer. Actually, these are workers who are so covered in dust that only their eyes make it possible to be certain that these are people at work and not automata. With the deeply layered dust, the shops are like rooms buried in snow, in the gloom of which the same snowmen move about. And not only the workers suffer from this dustiness. The nearby fields and orchards are dying under this grey and untrapable layer. And one of the factories of the combine is built in the town itself without the necessary sanitary-protection zone, in proximity of the bakery, a school and residential areas. The consequences from such construction "resourcefulness" do not need any comment.

We would not say that this picture is not known by the responsible elements at the combine and in the town. Repeatedly the health bodies have intervened and have given orders to halt production until effective dust-trapping

facilities can be installed. There is a special order from the KhEI [Hygiene and Epidemiological Inspectorate] to move the perlite factory outside the city limits, but this order, like the others, remains merely on paper. Experiments have been made to capture the dust, and many types of machines have been tested such as the UTs-3, PVP-30 and others, but the results have been ineffective. Most recently, in 1974, it was thought a decision had been found by the installation of new Raketa-type dust catchers at the factory of the Dzhebel stop. These provided a good effect, they were easy to maintain, the captured dust was "processed" with water and by settlers a complete dust removal system could have been created in production. But the equipment was one thing, but organizing their maintenance was something else. In a check of the KhEI in 1975, it turned out that "the casing of the fans and air ducts had holes, and there was not a sufficient quantity of water for the dust traps." At the end of the order, the KhEI stated that production would be halted if measures were not taken.

Two years have passed. The enterprise continues to release clouds of dust like a volcano. The labor safety inspectorate under the Okrug Council of Bulgarian Trade Unions has intervened, a note of concern has been sent off to the Ministry of Mineral Resources and the Central Council of Bulgarian Trade Unions, and the ONS [okrug people's council] has intervened. But for the time being the problem is in the phase of a paper war. The ministry has instructed the Bureau for Development and Introduction in Kurdzhali to draw up plans for dust elimination on all areas. The ONS, in turn, that it is not within the power of the local organizations to resolve the issue, and competent and concrete help from the ministry is needed. And while this war of letters continues, in actuality the enterprises of the Rhodopi MOK do not halt for an instant in discharging their clouds of dust and are true preserves of snowmen.

Another basic polluter is the Lead-Zinc Plant. The snowmen are missing in its shops, but here there are treacherous lead aerosols, sulfur compounds and others which do their evil work not only here but far beyond the limits of the plant. As the research shows, the plant regularly has "overfulfilled" the standards for their content in the atmosphere of the town. The reason for this, as the leadership informed us, is the absence up to now of effective facilities which solve the problem of capturing the gases. Here there are certain efforts to improve the situation. The plant collective has designed and manufactured a new device which would replace the difficult-to-maintain PVP-30 dust catcher and which weighs 5 tons and costs 10,000 leva. The new device of the AOG-10 type costs 2,500 leva and weighs 2 tons while the economic effect from the additionally caught dust amounts to 6,080 leva. But it must always be emphasized that this is an achievement of internal plant significance without having a beneficial effect for the inhabitants of the town. As of next year, a new shop for melting down old batteries will begin operating at the plant. It is essential to solve the problem of its "decontamination" before it goes into operation in order that it does not become an additional source of pollution. Incidentally, this year 1,578,000 leva of capital investments have been allocated for combating pollution, but in the 8 months scarcely 536,000 leva, or 34.2

percent, have been used, a figure eloquently illustrating the state of the problems of environmental conservation. If this pace is maintained, then the town of Kurdzhali next year will remain with its problems, while its inhabitants will dream of pure and fresh Rhodope air.

10272

CSO: 5000

EAST GERMANY

PROBLEMS OF CHEMICAL POLLUTANTS DISCUSSED

East Berlin BERLINER ZEITUNG in German 10-11 Sep 77 p 13

[Interview with Prof Dr Karlheinz Lohs, member, GDR Academy of Sciences; director of the Academy's Research Office for Chemical Toxicology; chairman, International Disarmament Committee, World Federation of Scientists, by Dr Michael Ochel: "Is a Poisonless Environment Possible?"]

[Text] It sounds unlikely, but it has been scientifically demonstrated: Even the big-city dweller of today, who has to learn to live with the stench of traffic, is no longer exposed to that concentration of poisonous carbon monoxide respired by the cave man at his "domestic hearth" in the mists of prehistoric times! And medieval cities with their dunghills and manure piles as breeding places of decimating scourges such as plague, cholera and typhus are now but a historical memory and a warning in the highly industrialized nations of the earth. And yet, every modern, industrial country faces the problem of how to handle a large, ever-increasing number of chemical compounds as waste products which, via the environment, are penetrating the human body, where they may have poisonous (toxic) effects. The study of the problems related to this situation is one of the objects of research in chemical toxicology, a still relatively young scientific discipline. "BZ" [BERLINER ZEITUNG] asked Prof Dr Karlheinz Lohs, a leading expert in this field, some pertinent questions.

BZ: An oft-quoted slogan once ran: "Chemistry provides bread, health and beauty." Chemistry, however, also burdens the environment with substances which are not always harmless.

Prof Lohs: The scientific and technological level which we have attained, as well as the further development of the national economy, are inseparably linked with the synthetic products of chemistry. The overwhelming majority of these synthetic products are foreign substances--that is, chemical compounds which are neither structurally nor functionally comparable with natural materials. Such synthetic products are incorporated as foreign



substances into the natural metabolic processes in humans, animals and plants and are thereby chemically altered. Although our knowledge about the so-called metabolic processes which take place in this situation is still very meager, we know that, depending on the type and amount of such synthetic products which have gotten into the metabolism, compounds arise which are altered in structure and in activity and which can have a more or less marked harmful effect on the organism concerned. Harmful substances can, consequently, be formed from foreign substances. This, however, should not lead to the premature conclusion that the synthetic products of chemistry, as foreign matter, must necessarily and in all cases also be harmful. It is, therefore, an important question for basic research to elucidate, by chemical and toxicological studies, whether and under what preconditions a foreign substance becomes a harmful substance and how, in such an event, metabolism can be influenced so that foreign substances which have become harmful can be detoxified as effectively as possible, or else excreted from the body.

BZ: So it is a matter of determining realistic criteria for evaluating the products of chemical synthesis?

Prof Lohs: Yes, and of not deriving uncritical generalizations about burdening the environment by chemistry through a blind fear of being poisoned! There will always be a risk in that biologically active synthetic products are manufactured, processed and used in the multiple areas of industry, agriculture, and also in home articles. Giving up these products or even their drastic limitation would have unforeseeable consequences, for neither could food be made safe, nor infectious diseases kept under control nor the transport of goods by land, water or air be assured. The public all too often overlooks the fact that without the end products of chemistry, even the requirements of protecting and shaping the environment could not be met.

BZ: Then what contribution can chemistry produce toward protecting the environment?

Prof Lohs: Independently of the starting point in an attempt to solve the problems of the environment, chemistry will always have to be included in the solutions to these problems, for the means and possibilities of chemical technology are required to clean up sewage, purify polluted air, compost trash and carry out all the processes of recycling raw materials, additives, and waste products. In addition, new conversion procedures must be developed by chemistry which produce low amounts of waste, together with the reconstruction of existing production and processing installations oriented toward protection of health and the environment and the replacement of products which burden the environment; for example, in the detergent field, in pesticide use or in fuel additives.

BZ: Does this not mean that the chemist will need to revise his way of thinking?

Prof Lohs: In past decades the education of chemists, and consequently their way of thinking, was oriented principally toward new-product synthesis. The problems posed by an environmentally protective analysis were not yet as

inexorably on the agenda as they are today. This was also true of analytical chemistry, which, to be sure, has always been confronted with the problems of detecting and determining poisons in the sphere of human life, but which only in the last two decades has found the necessary conceptual and methodological expansion required for solution of the environmental-protection problems now cropping up. The awakening of this understanding for the role of chemistry in modern society and the transmission of concrete chemical knowledge about the relationships between technological procedures, agricultural processes and molecular-biological events is one of the most pressing obligations of our training and also of popular-scientific work, not to mention the courses in colleges and technical schools.

BZ: Industry and traffic are certainly major sources of harmful substances. But do not toxicological dangers also lurk in the private domain of the individual and in the "chemified" household?

Prof Lohs: Considerable ones, to be sure! Alcohol and nicotine are toxic substances which are often consumed in terrifyingly high doses. And alongside these "classic" poisons are drugs, mainly pain-relieving preparations and psychoactive drugs, whose consumption has considerably increased in recent years. For example, expenditures for drugs in the GDR came to 820 million marks in 1961, and in 1973 they were approximately 2.1 billion! But every drug is a biologically active substance which can have very toxic effects in uncontrolled doses and in combination with other drugs.

Hobbyists, too, are endangered if they misuse modern paints, and our children are especially imperiled. Every day we experience cases in which, for example, small children have been poisoned because they "ate, as candy," furniture polish, shoe polish, cosmetics and other unbelievable things which had been carelessly left in the bathroom or on their parents' dressing table. Think, too, of the foolishness of adults who store solvents and other such materials in beer and soft-drink bottles.

BZ: What are the most pressing problems that you and your coworkers are concerned with?

Prof Lohs: As a highly developed industrial country and transit route, the GDR is especially burdened with foreign materials and harmful substances and must also economize with its extremely limited water resources. We are participating in the effort to promptly recognize and appropriately evaluate the harmful components present in the environment in order to reduce them to a normal level; that is, keep them within limits compatible with health.

Our country carries out intensive agriculture with a high degree of use of chemicals. We are, therefore, especially engaged with the problems of analyzing herbicides and pesticides and in this connection are particularly mindful of protecting against possible long-term and late-onset damage. For as we see it, chemical toxicology, is primarily a prophylactic science of a deeply human character and not just a mere fig leaf on the "body industrial."

## YUGOSLAVIA

### 'ENVIRONMENTAL PROTECTION YEAR' ACTIONS YIELD FEW RESULTS

Belgrade BORBA in Serbo-Croatian 26 Oct 77 p 6

[Excerpts] At the 25 October meeting of the Council for the Year of Protecting and Developing the Living and Working Environment (chaired by Branko Pesic) it was said that a number of initiatives and actions had been taken throughout the country to protect the environment. Although this is encouraging, all these efforts have not always been effective. Dr Ales Bebler said that in Yugoslavia about 200,000 hectares of forest are destroyed annually and that Yugoslavia is in 24th place in Europe in regard to re-forestation.

Of Yugoslavia's 513 opstinas only 62 have long-term plans on environment protection, while 51 have short-term plans. Air-quality protection has been regulated in 25 opstinas, water protection in 65 opstinas, and noise protection programs are being carried out in 25 opstinas. All this shows that the problems of environmental protection are being settled sporadically and that there is still no broadly organized action. The situation is similar with self-management organizing in the area of environmental protection. In only Slovenia, and Bosnia-Hercegovina are there Self-management Interest Communities [SIZ] for environmental protection; more precisely, there is in Bosnia-Hercegovina a SIZ for regulating the course of the Sava River in that republic.

The opinion was expressed several times at yesterday's meeting that the Year for Protecting the Living and Working Environment should be extended to include 1978.

CSO: 2800

EGYPT

NATIONAL PLAN TO FIGHT POLLUTION FORMED

Cairo AL-'UMMAL in Arabic 26 Sep 77 p 4

[Article: "It Was Decided To Form a National Plan To Fight Pollution and Occupational Diseases in Egypt"]

[Text] It was decided to form a national plan in Egypt for the protection of nature from industrial pollution and for the protection of people from occupational diseases. The Ministries of Health, Manpower and Vocational Training, Industry, Housing and Agriculture will cooperate in the execution of this plan.

This was studied by an official source at the Ministry of Manpower and Vocational Training, which added that the decision to form this plan was a result of a series of meetings of experts from the different ministries, held at the Ministry of Health during the past 2 months.

The source said that during these meetings the discussions dealt with the problems of pollution in the light of the reports and studies of the International Works Agency and the International Health Organization. The expertise of the different ministries in the field of vocational health and the available means of each of the ministries in manpower, financial authorization and technical equipment were also discussed, the source added.

The source also said, "Dr Mustafa al-Battawi, who is an expert in the International Health Organization, submitted proposals, which were discussed during these meetings, to make complete plans for the protection of workers from occupational diseases and for securing industrial safety in the different fields.

"The national plan to protect nature from industrial pollution is being formed to be executed in three short-range, medium-range and long-range stages. The plan is also formed to face the different circumstances and possibilities, and it can be developed in every stage as suits the requirements.

"The plan stresses two main factors, which are training and research. The training is to prepare specialized cadres which would be equipped with experience and scientific education so that they would be qualified to carry out their responsibilities."

The source ended the statement by saying that Dr Mustafa al-Battawi was authorized to prepare the plan so that it can be approved and so that the role of each ministry in the execution of the plan will be defined.

8988

CSO: 5000

## PERSIAN GULF

### POLLUTION CALLED SERIOUS THREAT TO AREA

Kuwait AL-SIYASAH in Arabic 27 Aug 77 p 5

[Article: "Pollution, the Gulf's Catastrophic Threat"]

[Text] Siyasa News Service--Pollution is one of the serious environmental problems. For it affects directly the economic system, and poses a growing threat to the human environment and health. Oil and natural gas are sources of pollution in the Arab Gulf region. Pollution in the Gulf is a modern problem which became aggravated recently when industrial development manifested itself in the region, accompanied by the growth of population concentrations.

Diagnostically speaking, the pollution problem in the Gulf region emanated from oil drilling in the sea, owing to oil leakages from the means of maritime transportation and other flows running from the city to the sea. The roots of this problem go deep and spread even further with the rapid increase in untreated industrial waste effluents from oil and gas, which flow from the industrial centers for oil refining and from petrochemical and fertilizer units in particular, and spread out over the Arab Gulf.

With the urban expansion that the Gulf region is witnessing, the quantities of untreated wastes from the residues of industry and oil are geometrically in proportion to the development of these urban concentrations.

For these reasons the Arab Gulf region has become polluted. Many environmental experts think that the problem will become more complex and its danger will become catastrophic if measures for treating the spreading danger falter and are not brought into balance with a speed appropriate to that explosive situation.

Take a local example. The village of al-Shu'aybah faces the danger now, and in a form which menaces its life, that is, the pollution which struck its atmospheric environment. In 1974 the Kuwaiti Government had to evacuate the population of this village to another location far from the site of the al-Shu'aybah industrial complex.

The plans studied for controlling pollution are now of the greatest urgency to the Gulf region, in order to save it and to create a clean atmospheric marine and land environment. And until these plans are implemented, it will be necessary above all to establish comprehensive regional cooperation to mobilize all energy to drive away the specter of pollution. The creation of a regional center for oil pollution studies is in the second rank in the progression of solutions and priorities which must be undertaken with regard to this matter. This center will serve as a storehouse of scientific information and statistics from which all the states in the region can benefit in their activities and scientific studies. As for technology, the states of the region call for the reduction in the leakages which the means of transportation cause, and handling of this matter requires review of the engineering and administrative adequacy of these means, and an increase in their technical complexity. Under this rubric also is the question of reliance on scientific planning in the plants, and the equipment used in them to reduce pollution, even if it cannot eliminate it totally.

As for the urban effluents from oil and other wastes, it is necessary that in issuing laws to prohibit pouring them into the Gulf, priority be given to cooperation of the states of the region in creating water distillation stations and production units, which can benefit from the flow of wastes by converting them into fertilizers, as is happening, in part, in Kuwait.

8894

CSO: 5000

## SOUTH AFRICA

### MAJOR ECOLOGICAL RESEARCH PROJECT REPORTED

Johannesburg THE STAR in English 7 Oct 77 p 29

[Article by Science Editor Marais Malan reports on one of South Africa's biggest ecological research projects--Nylsvley Provincial Nature Reserve]

[Text]

More than 50 scientists from eight universities and several other institutions and government departments are engaged in perhaps the largest collaborative ecological research project ever undertaken in South Africa.

Their giant open-air laboratory stretches over about 400 hectares of the Nylsvley Provincial Nature Reserve between Nylstroom and Naboomspruit.

Last week the Council for Scientific and Industrial Research, as co-ordinator and administrator of the undertaking, showed a group of VIP guests what goes on. Included in the party was the Minister of Health and Planning, Dr Schalk van der Merwe.

### Object

Practically behind every bush the party came across a scientist and his equipment. Naturally the demonstrations were set up specially for the occasion as most of the research is carried out intermittently and all the scientists are usually not in the area at the same time.

This multidisciplinary programme, called the savanna ecosystem project, is the most advanced of several either run by or contemplated by the National Programme for Environmental Sciences. They cover the ecosystems of the Karoo, the desert and the winter rainfall area of the Cape.

Its object is to learn everything there is to know about this particular biological system — from the soil and the climate to the most advanced forms of life.

And being an ecological study, the relationship between the different components of the system is intensively studied.

As Professor B H Walker, botanist of Wits



and chairman of the project's planning panel explained:

"We are trying to understand how the ecosystem functions — what its structures are and how they relate to one another."

Once all this information is available it will be possible to predict the results on the ecosystem (which is representative of a large part of the Transvaal) of any positive or negative actions man may take, such as burning the veld or allowing cattle to graze.

In addition the effects of natural phenomena, such as rainfall, can be predicted.

Another aim is to provide an educational facility for training scientists in multidisciplinary research and for teaching students the principles and methods of ecosystem ecology.

Among the research projects is a weather study whereby the water entering and leaving the ecosystem through rainfall, transpiration, evaporation, draining and run-off is calculated.

This involves sophisticated radioactive isotopic studies and, in addition to a manned weather station, a fully automatic weather station which records the readings of some 40 sensors in the area.

Other scientists are studying the micro-organisms in the soil which are at the end of the ecological chain and are largely responsible for the breakdown of organic matter on which the plants feed.

Then there are the botanists who investigate the grasses, shrubs and trees which provide nutrients for insects and the herbivorous mammals, including cattle which have over the years become part of the system.

### **Animal life**

They are measuring the growth rate of trees, the rate of photosynthesis and transpiration of various plants, and the root system of the grasses, to mention but a few studies.

The region teems with animal life — from kudu, duiker and impala to some 40 species of small game ranging from mice to small carnivores.

There are 29 snake, 24 lizard and numerous frog species. They have to be trapped, marked and released so that an estimate of the different populations can be made.

Insects constitute another study of importance, aimed at determining the role of each species on the environment.

The research is a long-term project which will last until about 1984. The final phase will concern a study of management strategies for optimal use of the savanna ecosystem.

SOUTH AFRICA

# HYACINTHS AT HARTBEESPORT DAM SPRAYED

Operation Resumed

Johannesburg THE STAR in English 18 Oct 77 p 7

[Text]

Water hyacinths in Hartbeespoort Dam have been sprayed and they are expected to be dead within a month.

The latest attempt to rid the dam of the weed began early today when aircraft started a seven-hour spraying operation.

Symptoms of "browning" should start appearing in seven to 10 days which will indicate the hyacinths are dying.

Officials responsible for the weeding exercise will then inspect the dam to determine which areas should be resprayed.

## Cost Reported

Johannesburg THE STAR in English 20 Oct 77 p 6

[Text]

The cost of the latest attempt to remove the water hyacinth from Hartbeespoort Dam is about R140 000.

The contract is believed to be the largest awarded in South Africa for chemical control of aquatic weed.

It provides for the aerial spraying of 900 ha, about half the surface area of the dam.

Department of Water Affairs officials and the manufacturers of the killer chemical are confident they have the solution to the green pestilence.

If it is successful the department will have finally triumphed over the hyacinth in the battle to gain control of the dam.

### MENACE

The hyacinth came to South Africa from South America.

It is not certain who brought the first plants to South Africa, and for what purpose, but they managed to infiltrate the country's rivers.

Since then the green menace has been on the rampage.

Its greatest strength is an ability to reproduce itself at a rapid rate. One hyacinth can double its mass in 10 days — 10 could increase to 900 000 within 10 months.

CSO: 4420

## SOUTH AFRICA

### SCIENTIFIC, FINANCIAL AID TO ASBESTOS RESEARCH OFFERED

Johannesburg THE STAR in English 8 Oct 77 p 3

[Text]

South Africa is willing to make a major scientific and financial contribution to international research into the hazards of asbestos exposure and its possible link with cancer.

Mr F A Snyman, Deputy Secretary of the Department of Mines, said this in Johannesburg yesterday at the conclusion of a five-day symposium on asbestos attended by 38 scientists from 13 countries.

Object of the symposium was to review the present state of knowledge of asbestos and its associated health hazards with a view to identifying, if possible, the areas that required further investigation and research.

Mr Snyman said South Africa, as one of the most important asbestos producers in the world, had a great volume of untapped scientific knowledge which it was prepared to make available to other countries in a spirit of co-operation.

South Africa, he added, would make a contribution of R200 000 a year to international asbestos research and was willing to make both facilities and personnel available.

"Overseas scientists are welcome to come here to undertake scientific research," he said.

CSO: 5400

ZAMBIA

## KAFUE RIVER POLLUTION

Lusaka TIMES OF ZAMBIA in English 17 Oct 77 p 1

[Text]

EFFLUENT discharges from industries are polluting Kafue river thereby threatening human and aquatic life, Kafue township council has warned.

Expressing concern at the rate of pollution being caused to water in Kafue river in a report given to Minister of State for Local Government and Housing, Mr Nephas Tembo over the weekend, the council says the problem has been precipitated by industrial growth.

The council is fighting pollution by ensuring that all industries in the town send in samples of effluent discharge to Lusaka for testing.

Industries such as Kafue Textiles, Nitrogen Chemicals, Bata Tannery, Lee Yeast and smaller ones have been the main contributors to the pollution problem.

Some of the discharge is highly dangerous to human beings if consumed through polluted water and it is necessary that they be checked if they are not going to be harmful to aquatic animals in the river, the council warns.

CSO: 5000

USSR

MEETING OF ESTONIAN ENVIRONMENTAL COMMISSION

Tallin SOVETSKAYA ESTONIYA in Russian 23 Sep 77 p 3

[Article: "At the Commission on the Protection of Nature of the Estonian SSR Supreme Soviet"]

[Text] The rapid growth in industry and municipal construction dictates a growth in water consumption. The problems involved in water utilization and conservation were discussed at a session of the Commission on the Protection of Nature of the Estonian SSR Supreme Soviet. Prior to the session there was a familiarization period to become acquainted with the organization of work and the progress of construction on water management projects.

The commission chairman, deputy A. B. Upsi, led the session. The chairman of the State Committee of the Estonian SSR Council of Ministers for Land Reclamation and Water Management, O. Valing, delivered a report on the realization of the Third Section of the Estonian SSR Water Code on "Water Conservation and Prevention of Harmful Influences."

The commission noted that the Estonian SSR Water Code is being effectively realized. At the land reclamation administrations departments to manage the water economy of the rayons are being formed.

With the aim of improved water concentration a quick method to check sewage water at sewage treatment plants was introduced. It allows for precision evaluation of their work.

At the beginning of this year there were 853 sewage treatment plants in the republic. In the 10th Five-Year Plan this number will grow. In the mightiest industrial centers of the republic plans call for the activation of additional sewage water treatment plants and the construction of up to 520 sewage treatment plants with a smaller capacity.

A multitude of technological measures on conservation of the water environment is being adopted at the industrial enterprises. Protection of the sea environment is well organized.

The water conservation department of the Estonian SSR Council of Ministers for land reclamation and water management developed a plan for measures to eliminate contamination of rivers entering the Matsaluskiy Bay, and for bodies of water of the Lakhemaaskiy national park and the land around the water resources.

Alongside the successes in water conservation work there are also shortcomings to which the commission devoted its attention. And so, there is a lag in the reorganization production technology with the aim of water conservation at enterprises processing potatoes, fish and meat. The recovery of used oil at petroleum product storage and distribution centers is still small.

With the aim of the best operation of sewage water treatment plants, sewer systems and water supply systems, the commission recommended that the agricultural machinery association, Estsel'khoztekhnika, adopt more conclusive measures for the technical servicing of sewage water treatment plants in rural areas and on farms. It was recommended that the chief administration for marketing and supplies of the Estonian SSR Council of Ministers increase receipt of oil residue suitable for regeneration and perfect new technology for the handling of oil to prevent water from falling into fuel oil.

For the best realization of water conservation measures the commission turned its attention to the need to establish a specialized construction organization in Estonia for the construction of sewage water treatment plants.

Deputies of the Estonian SSR Supreme Soviet, L. Myunter, N. Lekhin, N. Dudkin and E. Orav, delivered speeches at the session.

8504

CSO: 5000

USSR

# GIVISHIANI SPEAKS AT TBILISI ENVIRONMENTAL CONFERENCE

LD241626Y Moscow TASS in English 1350 GMT 24 Oct 77 LD

[Text] Tbilisi, October 24, TASS--The condition of the environment in the Soviet Union, which accounts for more than 20 percent of the world industrial production, is much better than in other developed industrial countries. This is linked with many-faceted activities of the Soviet state in protection of the biosphere, said Jerman Gvishiani, deputy chairman of the Committee of the Council of Ministers of the USSR for Science and Technology.

Jerman Gvishiani made a report at an intergovernmental conference on environmental protection education, which is under way in Tbilisi, the capital of Georgia, a Soviet Transcaucasian republic.

The conference is attended by representatives of 140 states of all continents. The conference is to generalize the international experience in improving man's environment, organizing ecological education, outlining a programme of work in this sphere.

Professor Gvishiani noted that 11,000 million rubles were allocated for protection of biosphere in the USSR in the current five-year period (1976-1980). 9,000 big cleaning installations were put into operation in the country in the recent years, including in the basins of the Volga, Kama, and Ural Rivers, on the coasts of the Black, Caspian and Azov Seas. An automatic service of control and operative information on the condition of the air basin is functioning in 200 industrial centres. The use of new pesticide in agriculture is being controlled.

Jerman Gvishiani has said that the USSR has a broad system of ecological education. A "nature protection" course is now being taught at institutes and technicums, related to the use of natural resources. About 30 million people are members of voluntary nature protection societies. For the first time in the constitutional practice, the new Constitution of the USSR makes the state responsible for preservation of the environment, Gvishiani stressed.

CSO: 5000



## PLANNING ENVIRONMENTAL PROTECTION

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 10, Oct 77 pp 36-43

[Article by P. Poletayev, USSR Gosplan division chief: "Improve the Planning of Nature Conservation"]

[Text] The efficient use, conservation and reproduction of natural resources and a careful attitude toward nature are a component of the building of communism. The progress of mankind is impossible without an influence on nature, without the consumption of its resources. We not only adapt ourselves to the natural environment, but also change and transform it. Sometimes this is done without regard for the negative consequences which emerge in natural processes, as a result of which water, the atmosphere and soil are polluted, some types of natural resources are exhausted and the natural circulation of substances in nature is disturbed. Now it has become impossible to further exploit nature on the basis solely of consumer needs.

The interdependence of man with nature and his influence on it should be reasonable and scientifically substantiated. F. Engels said: "We will not, however, cherish too much our victories over nature. For each such victory it takes vengeance on us. Each of these victories has, it is true, first of all the consequences we counted on, but secondly and thirdly quite different, unforeseen consequences which very often cancel out the importance of the first ones."<sup>1</sup>

Under the conditions of a centrally planned socialist economy there exists the objective possibility of the comprehensive consideration of the socio-economic consequences of the activity of man for the environment and the implementation according to a plan of the necessary nature conservation measures.

The 25th CPSU Congress set the general goal in the matter of protecting nature in the immediate future and indicated ways to solve it. In the

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1. K. Marx and F. Engels, "Soch." [Works], Vol 20, pp 495-496.

State Plan of USSR National Economic Development for 1976-1980 specific assignments are established, with a breakdown by years of the five-year plan, USSR ministries and departments and councils of ministers of the union republics for a wide range of indicators for natural conservation activity of the management subordinate to them: on the protection from pollution and efficient use of water resources, land, the protection of the air basin and timber resources, the reproduction of fish stocks, the protection and efficient use of mineral resources, the putting into operation of production capacities, structures and objects for nature conservation purposes, as well as on the amount of state capital investments being allocated for their construction and the conducting of similar measures.

Along with the five-year plan, annual plans on nature conservation are being drafted and approved. At the same time it is necessary to note that their formulation on the level of sectors, industrial and production associations, construction and agricultural enterprises and organizations, as well as with a breakdown by territory according to economic regions, union and autonomous republics, krais, oblasts and rayons in many cases is carried out without the proper coordination of the indicators of a different level of planning, in them it is not always expedient to combine the production and socio-economic demands of the members of our society. Therefore the need arose to improve planning in the area of nature conservation.

Economic, social, technological and biological processes are so closely connected and interconnected that modern production cannot be regarded as anything other than the functioning of a complex ecological and economic system, it is impossible to set the economic and the natural systems off against each other.

Above all it is necessary to ensure the interconnection of the indicators of the national economic plan and the plans for individual regions with the indicators of the plans of enterprises and organizations of the sectors of the national economy and industry. At the basis of planning is the Leninist principle of democratic centralism, which presumes the integral combination of centralized planning management with the maximum development of the creative activeness of workers in the administration of production, with the diverse manifestation of the initiative of local organs in economic and cultural construction.

The plan of the production enterprise (association), construction project, kolkhoz or sovkhoz is the primary unit of the entire system of national economic planning, including for questions of nature conservation. Its drafting is carried out on the basis of control assignments, which are received from superior organizations and with allowance made for the proposals of the enterprises itself.

At present in the technical, industrial and financial plan of the enterprise (the construction and financial plan of the construction project,

the production and financial plan of a kolkhoz or sovkhoz) there is no standard section or legalized indicators on nature conservation and the efficient use of natural resources. The indicators of the plan of nature conservation, except for indicators on the amount of state capital investments and the putting into operation of capacities and objects for nature conservation purposes, which reach the enterprise "from above," are not taken into account in the technical, industrial and financial plan (the construction and financial plan, the production and financial plan) and have no actual interconnection with the other indicators of the plan, since they are not balanced with the material, financial and labor resources of the economy.

The efforts of the managements themselves in questions of nature conservation activity are not reflected, as a rule, in the production and financial plans of enterprises, construction projects, kolkhozes and sovkhozes. The indicators of the State Plan of USSR National Economic Development on nature conservation in practice are based not on the projections of the lower production unit, but on the estimates of the ministries and departments of the country and the councils of ministers of the union republics. These estimates are supported by the estimates of intermediate units of administration, which do not always coincide with the interests of production enterprises and construction organizations, as well as with the requirements of legislation on nature conservation and the efficient use of natural resources.

In our opinion, this serious shortcoming in the general system of state planning of nature conservation activity should be eliminated. The indicators of the State Plan of USSR National Economic Development on nature conservation and the efficient use of natural resources should be interconnected with the indicators of other levels of planning and be based on the projections of production associations (combines), enterprises, construction projects, kolkhozes, sovkhozes and other works. For this it is expedient to begin the development of the indicators of the drafts of annual and long-range plans on nature conservation with the production enterprises, industrial associations, trusts, administrations and so on and to submit them to the superior organs by subordination. In the indicators of the technical, industrial and financial plan, the construction and financial plan and the production and financial plan correspondingly of the production association (combine), enterprise, construction project, kolkhoz and sovkhoz it is necessary to introduce an independent section with indicators on nature conservation and the efficient use of natural resources, which are analogous to the indicators of the national economic plan, to ensure the interconnection of the production plans and the plans on nature conservation at enterprises, taking maximum advantage of the internal reserves of each management for the purposes of nature conservation.

In the technical, industrial and financial plans (construction and financial plans, production and financial plans) it is expedient to group the indicators of this section according to the following directions: the

protection and efficient use of water resources; the protection of the atmosphere; the protection and efficient use of land; the protection and efficient use of mineral resources.

The amounts of capital investments on nature conservation, the efficient use of natural resources, the putting into operation of capacities and objects for nature conservation purposes should be allocated by the individual construction project in the section of the technical, industrial and financial plan on capital construction. Moreover, in the section on capital repair it is necessary for the individual construction project to single out the work being performed at the nature conservation objects, with an indication of the expenditures for these purposes.

When an enterprise (construction projects, sovkhoz and so on) is drawing up the indicators of the plan on the protection and efficient use of water resources, the progressive trends of water consumption and water discharge should be reflected with allowance made for the possibilities of the reduction of the intake of fresh water from surface and underground water sources through efficient utilization at all stages of production, the introduction of systems of return water supply and step-by-step reuse of water, the reduction of irretrievable losses, the use of mine-shaft, open-pit and other similar waste waters, the reduction of nonproductive consumption and losses of water. In working on the plan it is necessary also to take into account measures on the special-purpose improvement of production technology for the reduction of water consumption and water discharge, on the purification of waste water, the extraction of valuable substances from waste water, the collection of liquid and solid wastes from the water areas of ports, the reduction of the amounts of floating of timber and the raising of sunken timber.

The plan of the protection and efficient use of water resources during the irrigation of land, where considerable overexpenditures of water as against the established irrigation norms often occur, should become a subject of particular concern of kolkhozes and sovkhozes.

When planning the putting into operation of capacities which ensure the protection and efficient use of water resources it is necessary to single out the putting into operation of stations: for the biological purification of waste water, the physicochemical and mechanical purification of waste water; systems of: water supply with closed cycles (the constant or repeated use of intake water), including circulating systems of hydraulic ash removal and the hydraulic removal of various slags; production water supply with a set of structures belonging to these systems; the sequential use and reuse of water received from other enterprises and organizations.

The group of indicators of the plan on the protection of the air basin should include measures which ensure the reduction of the substances dangerous to man and the environment, which are vented with exhaust from stationary sources of enterprises, through the improvement of technology

and the equipment of the sources of harmful discharges into the atmosphere with equipment for their recovery and neutralization.

Among such measures is the building of industrial and pilot industrial gas-purifying and dust-collecting installations which consist of devices incorporated separately or in series (in parallel) according to the technological diagram, including dust-collecting chambers, louver dust catchers, dust extractors, direct-flow and battery dust extractors, rotary-action centrifugal dust catchers, hollow packed scrubbers of bubble and foam equipment, precussion-inertial action wet equipment, centrifugal-action wet equipment, dynamic and high-speed gas scrubbers, fiber, cloth and granular filters, wet filters--vapor catchers, electrofilters of all types with substations loading them, furnaces for catalytic and direct combustion, as well as other types of equipment which serves for the catching and neutralization of harmful substances before discharging them into the atmosphere.

It is particularly important to single out in the plans the indicator of the amount of utilized harmful substances from the exhaust with their breakdown by ingredients. The latter are used as independent products or are sent for processing in order to obtain other industrial products.

It is expedient to include the system of indicators of the plans on the protection and efficient use of water resources and the protection of the air basin in the technical, industrial and financial plans (construction and financial plans and production and financial plans) of all production associations (combines), enterprises, construction projects, kolkhozes and sovkhoses, since they consume water in the process of production and, as a rule, to some extent pollute the air basin. The indicators of the plan on the production and efficient use of land and mineral resources should reflect the activity correspondingly of agricultural and mining enterprises, and well as of enterprises which process mineral raw materials.

The forms and indicators of production and financial plans of kolkhozes and sovkhoses should include the indicators on the creation of artificial forest covers for the production of the soil from water and wind erosion, from the destructive influence of droughts and hot, dry winds for the purpose of the maximum protection of the rich layer of soil and the increase of the gross harvests of all agricultural crops; on the construction of terraces which make it possible to artificially change the surface of slopes and to use them for gardens, vineyards, timber and other agricultural crops, to protect the land of slopes from disaggregation by water erosion. In the plan it is also necessary to reflect the indicators on the creation of anti-erosion hydraulic engineering and antimud-slide engineering structures (embankments, dams, chutes, dikes, bottom rises and other objects) for combatting the destructive influence of water; on the maximum economy for agricultural production and the use of all land areas, and especially plowed fields, as well as irrigated and reclaimed land.

The indicators of the technical, industrial and financial plan of mining enterprises and enterprises for the processing of mineral raw materials should include measures which ensure the improvement of the system and methods of the processing of minerals and the rubbish of the worked space, the improvement of the flow sheets of the concentration of ores and the technological (metallurgical) conversion of raw materials, the use of the scrap of metallurgical production, the increase of the extraction from ores of valuable by-product components.

The efficient consumption of mineral resources should be determined by the indicator of the completeness of the extraction of the minerals from the ground during mining, as well as of the useful components from ores during technological conversion. This indicator can be reflected as a percentage. The indicators on the use of strippings, slimes from concentration and metallurgical slags should belong to this group.

The production plans of the enterprises and organizations of the AUCCTU and the USSR Ministry of the Food Industry should contain indicators on the extraction and use of mineral water for medicinal and other purposes.

The indicator on the recultivation of land should be one of the main indicators of the section of the plan on nature conservation and the efficient use of natural resources. To it belong the reclamation of land destroyed during the mining of minerals, geological prospecting, construction and other work, as well as the bringing of the land destroyed by peat mining, rock dumps, heaps of rocks and garbage into a condition suitable for use in the national economy.

The indicators of the plan on the protection of wild flora and fauna, artificial fish breeding and the conducting of biotechnical and other measures should be elaborated in the production and financial plans primarily of game, fish-breeding and reserve managements.

In the State Plan of USSR National Economic Development for nature conservation the sectorial and territorial aspects of the plan should be integrally combined.

In conformity with the decree of the CC CPSU and the USSR Council of Ministers, "On the Intensification of Nature Conservation and the Improvement of the Use of Natural Resources," local planning organs are drawing up drafts of consolidated long-term and annual plans of nature conservation for the territory of the autonomous republics, krais, oblasts, large industrial centers and as a whole for the territory of the union republic, with a breakdown of the territory of the Russian Federation and the Ukraine by economic regions. The drafts include measures subject to fulfillment both by enterprises and organizations of the all-union and union republic ministries and departments of the USSR, and by the enterprises and organizations subordinate to the ministries and departments of the union republic. They are being developed according to the structure and indicators of the

section of the national economic plan, "Nature Conservation and the Efficient Use of Natural Resources." These plans should ensure the necessary interconnection of the indicators of the State Plan with the indicators of the plans of sectors and union republics. However, the interconnection of the indicators of these plans with the indicators of the plans on nature conservation of industrial enterprises, construction projects, kolkhozes, sovkhozes and other managements has not yet been achieved. This is explained by the fact that in the forms of technical, industrial and financial plans (construction and financial plans and production and financial plans) there are no indicators on nature conservation and, consequently, such plans in most cases are still not prepared "from below" or are formulated according to arbitrary indicators and forms which as a consequence cannot be combined together.

The consolidated plans for a specific territory for the present reflect only the interconnection of the directive assignments, which are received "from above" by the enterprises and construction projects located on this territory, with the assignments which are stipulated in the plan of USSR national economic development on nature conservation for the corresponding union and union republic ministries and departments. The measures on nature conservation, which are carried out by the production subdivisions of these ministries on their own initiative, are not reflected in them, which also confirms the need for the inclusion in the forms and indicators of the industrial and financial plans (construction and financial plans and production and financial plans) of managements of the assignments according to the section of the plan on nature conservation, which are balanced according to the financial, labor and material resources, with the subsequent consideration of these assignments in the consolidated plans for natural zones and for the territory of the country.

The Scientific Research Institute of Planning and Standards attached to USSR Gosplan jointly with the divisions of USSR Gosplan are drafting a plan of the forms and indicators of the most ideal variant of the technical, industrial and financial plan of the production association (combine) and enterprises and methodological instructions on formulating it. It is necessary that the workers of the planning administrations of ministries, Gosplans and state committees for nature conservation of the union republics, the USSR Ministry of Land Reclamation and Water Resources, the Main Administration of Hydrometeorological Service attached to the USSR Council of Ministers, the USSR Ministry of Agriculture and the State Committee for Supervision of Safe Working Practices in Industry and for Mine Supervision attached to the USSR Council of Ministers also take a direct part in the formulation of the indicators of the section of the technical, industrial and financial plan on nature conservation.

In the elapsed two years since the drawing up of the draft of the first (1975) State Plan on Nature Conservation some experience of the planning of nature conservation measures has been gained in the ministries and departments of the country and the Gosplans of the union republics. Special

structural subdivisions have been formed in the Gosplans of nearly all the union republics. Studies for increasing the practical skills are being conducted regularly with the workers of the planning organs of the union republics. At the beginning of 1977 the Higher Economic Courses attached to USSR Gosplan jointly with the divisions of personnel and nature conservation of USSR Gosplan held a seminar on questions of the planning of nature conservation and the efficient use of natural resources. But this is not enough. For the planning workers of the ministries and departments of the country and the Gosplans of the union republics it is necessary to elaborate standards for the planning of nature conservation measures. The current norms of the maximum permissible concentrations of harmful substances in the water, air and soil are little suited for planning. It is necessary to draw up plans of consolidated norms of the maximum permissible discharges of harmful substances in the environment by enterprises of the same type of a sector, including technological discharges, that is, irretrievable losses of products with exhaust gases for each technological process. Such standards will make it possible to specify summarily the permissible discharges for sectors and republics, for individual regions and rayons with a high level of pollution of the environment. At the same time it is expedient to draw up plans of the optimum norms of consumption of water and air in specific technological processes of production. A different amount of water is consumed now for the production of a ton of paper, cellulose, metal and other industrial productions of the same quality at enterprises with similar technological equipment, as well as in the production of grain, vegetables, fruit, cotton and other crops on irrigated land in identical natural and climatic zones of the country.

Minerals and mineral water are sometimes not used efficiently in mining and dressing. Therefore, it is necessary to increase the level of the planning of the use of nature on the basis of scientifically substantiated standards.

USSR Gosplan has commissioned the Scientific Research Institute of Planning and Standards attached to USSR Gosplan and its Ukrainian and Armenian branches to draw up jointly with sectorial scientific research institutions standard documentation for the planning of nature conservation and the efficient use of nature.

Also of great importance is the timely drawing up of technical specifications for the "Nature Conservation" subsystem--an automated system of planning estimates (ASPR) with the subsequent use of the subsystem at all levels of planning. Its creation has been entrusted to the Council for the Study of Productive Forces attached to USSR Gosplan jointly with the main computation center and the division of nature conservation of USSR Gosplan. Preplanning work is now being carried out.

In our opinion, it is expedient for the Council for the Study of Productive Forces to devote greater attention to the study of questions of nature conservation and the efficient use of natural resources both for the country as a whole and for its individual regions. The maintenance of the natural



equilibrium and the timely consideration of the anthropogenic influence on the environment in many ways depend on the proper location of productive forces on the territory of the country and on the consumption of natural resources which are the basis of the development of productive forces.

The Scientific Research Economics Institute attached to USSR Gosplan should do much on the elaboration of questions of the theory and practice of the economics of the use of nature.

Questions of the planning of state capital investments for the purposes of nature conservation also require improvement. So far their amount has been specified as a component of the sectorial expenditures in new construction, the expansion and reconstruction of production objects and of the several participation in the construction of purification facilities in the cities where the enterprises of one sector or another are located.

For the Tenth Five-Year Plan the plan of capital investments is specified in the amount of 10.1 billion rubles, including 8.1 billion rubles for construction and installation work.

In the building of new production objects, the expansion and reconstruction of operating enterprises the capital investments for nature conservation measures, as a rule, are not being used entirely and during the periods in which the construction of objects of basic production is carried out.

The situation is otherwise with such objects, the construction of which is carried out severally by enterprises of different sectors of industry. The general client (city organizations) collects the shares--the capital investments--from enterprises with great difficulties, but does not always transfer them on time to the contractor. However, the contractor, who is uncertain about the reliable and timely financing of such objects, does not devote the proper attention to their construction, and the collected capital investments often are not used during the planning year and at the end of the year are transferred to the budget, while the material resources are allocated for the construction of objects of the following year. Thus, it turns out that the construction of the objects is not completed, while the capital investments according to the estimate are received in full by the contractor from the general client. It is not always possible to obtain additional capital investments for the completion of the construction, for example, of city-wide water purification facilities. But the production objects, which should be tied into these purification facilities, have already been built, yet are not operating, since due to the lack of purification facilities they have not been accepted for operation. As a result, the capital investments spent on the construction both of strictly production objects and of unfinished purification facilities are withdrawn from circulation.

There are many such examples. In our opinion, it is expedient to change the procedure of the planned distribution of state capital investments for the purposes of nature conservation. Capital investments for the

implementation of comprehensive intersectorial measures, which are aimed at the protection and improvement of the environment or the protection of it from pollution, should be provided in the State Plan of National Economic Development for their allocation to the councils of ministers of the union republics according to the section "Nature Conservation."

However, it is impossible to make the sectors of industry and the national economy liable for the pollution of the environment by the enterprises subordinate to them and, consequently, for providing these enterprises with state capital investments. The sectorial divisions of USSR Gosplan in their preplanning estimates should take into account the need of the subordinate sectors for capital investments for the equipment of operating enterprises with gas-purifying and dust-removing equipment, systems of circulating and repeated-series water supply and for the construction of autonomous water purification facilities. Beginning in 1976 in the technical plans and estimates of enterprises being newly constructed, reconstructed or expanded in conformity with the construction norms and regulations (SN-202-76), which were put into effect by USSR Gosstroy, the construction of all the necessary objects for nature conservation purposes has been stipulated and the amounts of capital investments for these purposes have been calculated.

Special-purpose capital investments for nature conservation should be allocated only for the construction of complex intersectorial objects or for the implementation of intersectorial measures in the case of a critical situation connected with the protection of the environment. With such an approach capital investments, in our opinion, will be used more effectively. It is expedient to not overextend them, to assimilate them rapidly, promoting thereby both the protection of the environment and the most rapid placement into operation of production capacities.

Questions of the improvement of planning and the increase of the production of nature conservation equipment merit serious attention.

The ministries producing this equipment and instruments and the divisions planning their production have been specified in conformity with the decree of the CC CPSU and the USSR Council of Ministers, "On the Intensification of Nature Conservation and the Improvement of the Use of Natural Resources," and an order by the same title of USSR Gosplan.

In our opinion, it would be expedient to carry out the planning of equipment for the prevention of the pollution of the environment for a consolidated products list, with the singling out of the basic gas-purifying and dust-catching equipment, equipment for facilities for the purification of waste water, for the incineration of waste, garbage incineration and garbage processing plants and garbage transfer stations, instruments for control over the pollution of the environment and the measurement of the amount of harmful substances in exhaust gases and waste water. It is necessary to introduce in the products list of the plan the production of reagents,

coagulating agents, catalytic agents, Celite and other chemical materials for gas-purifying equipment and facilities for the purification of waste water.

At present only the production of gas-purifying and dust-catching equipment, without a breakdown of the products list, is planned centrally. The production of equipment for facilities for the purification of waste water and control instruments for the operation of gas-purifying, dust-catching and water purification facilities and for status of the environment, as well as chemical materials for the purification of water and air is not planned by the corresponding sectorial divisions.

The division of balances and plans of the distribution of equipment and the consolidated division of machine building and metalworking should take part in the solution of these questions.

In the CC CPSU Accountability Report to the 24th Party Congress L. I. Brezhnev noted: "The central link, the core of the management of the national economy under the conditions of socialist is planning. Our country has major achievements in this area and has the right to be proud of them. But it is impossible to stand still, it is necessary to continue to work intensively on the improvement of both the theory and the practice of national economic planning."<sup>2</sup> This requirement equally applies to questions of the improvement of the theory and practice of national economic planning as a whole and to the theory and practice of the planning of nature conservation and the efficient use of natural resources. It is necessary for the draft of the plan for the Eleventh Five-Year Plan to be drawn up with allowance made for the proposals set forth in this article.

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2. "Materialy XXIV s"yezda KPSS" [Materials of the 24th CPSU Congress], Moscow, Politizdat, 1974, pp 66-67.

USSR

# LATVIAN ACADEMICIAN OUTLINES ANTIPOLLUTION MEASURES IN BALTIC

Moscow TASS in English 1325 GMT 26 Sep 77 LD

[Text] Riga, 26 Sep TASS--Soviet and Swedish scientists decided to make two joint expeditions to study biological processes in the benthic sediments of the Baltic Sea for the purpose of studying the effect of different kinds of pollution on living organisms. The Soviet Union provides oceanographic vessels for these expeditions. The program of research is discussed at the fourth Soviet-Swedish symposium that opened today in Latvia, a Soviet Baltic republic. Observers from the GDR, Poland and Finland attend the symposium.

The co-chairman of the symposium's organizing committee, director of the Institute of Biology of the Latvian Academy of Sciences Gunar Andrushaitis told a TASS correspondent that the concerted efforts of the USSR, Sweden and other countries for ensuring purity of water of the Baltic Sea are heartening, that the degree of pollution in the Baltic Sea decreased in recent years. But the scientist noted that further consistent and energetic actions are needed to achieve this purpose.

In addition to participating in international measures to protect the Baltic against pollution, the Soviet Union has outlined and is successfully implementing its own regional program. The discharge of effluent into rivers and other reservoirs of the basin is being steadily decreased and 100-percent processing of all industrial and other effluent will be ensured by 1985. Vessels of the Soviet maritime and fishing fleet in the Baltics are being equipped with oil skimmers and with devices for trapping refuse and harmful substances. They are discharged at floating and on-shore collecting points.

Gunar Andrushaitis said that each of the Soviet Baltic Republics is allocating vast sums to prevent water pollution. Over 170 trapping systems were introduced in the past year in Latvia alone. They can process more than 160 thousand cubic meters of water a day. Similar efforts are taken in this sphere by state bodies in Lithuania and Estonia.

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USSR

#### BREAKDOWNS IN CLEAN AIR PROGRAM

Moscow PRAVDA in Russian 18 Sep 77 p 2

[Article by I. Petryanov-Sokolov, academician; B. Laskorin, academician; V. Malyusov, corresponding member, USSR Academy of Sciences: "Problems and Opinions--Raw Material From... Smoke"]

[Text] In practically all the developed industrial countries the atmosphere is contaminated most of all with sulfur dioxide. Metal corrosion, deterioration of building materials, ruination of forests and human health problems are sharply increased under its influence.

The basic suppliers of sulfur dioxide are thermal power plants. How can this damage that they cause the environment be reduced?

The method in wide use today--the installation of elevated pipes--does not solve the problem. The construction of giant smokestacks reaching 320 meters at times and even more, even though they decrease air pollution in the surface layer close to the thermal power plants, they do not reduce the overall amount of harmful discharges entering the atmosphere.

Even more acceptable, we think, is the extraction of sulfur from coal or black oil prior to their burning in combustion chambers. However, the methods known to science are either too expensive and ineffective or have not been studied enough.

What remains is the purification of the smokestack fumes. World practice confirms that this method is promising, even in the near future.

The Soviet Union is the pioneer in the development of processes to extract sulfur dioxide from smoke. Even in the 30's at an experimental plant at the Kashirskaya State Regional Electric Power Plant three such processes were tested--the magnesite, limestone and ammonium. In 1952 at the Moscow Heat and Electric Power Plant [TEHTs] No. 12 an experimental production device was built which annually trapped up to 10,000 tons of 100 percent sulfur dioxide from the smoke fumes. Another commercial product provided by the device was ammonium sulfate.

By far more powerful sulfur trapping devices which have been working continuously for 13 years have been installed at the Magnitogorsk Metallurgical Combine.

Work along these lines is being conducted in a number of developed industrial countries. For example, by the end of 1976 the overall capacity of thermal power plants equipped with sulfur trapping devices reached 12,000 megawatts, and 23,000 megawatts in Japan.

According to estimates of Soviet specialists, expenses for gas purification devices for a power plant situated in a lightly populated region, accounting for preventable damage to the natural environment and for deriving commercial products, pay for themselves in 3.5 years. For thermal power stations located in cities, the benefits from trapping sulfur dioxide will be of even greater significance. Even today thermal power plants could provide half the sulfuric acid produced annually in the country.

The decree of the CC CPSU and USSR Council of Ministers "On the Intensification of the Protection of Nature and the Improved Utilization of Natural Resources" entrusts the USSR Ministry of Power and Electrification with the obligation, in particular, to build two experimental production devices in 1975 to clean sulfur dioxide from smoke fumes, discharged during combustion of solid fuel and oil. However, the job has not been completed. A decision was approved in April 1976 for construction, as yet incomplete, of industrial devices in the 10th Five-Year Plan for cleansing and purifying smoke at the Severodonetsk, Lisichansk and Rubezhanskaya heat and electric power plants, but this must serve as the beginning of the widespread introduction of similar devices. In this way, the mass construction of sulfur trapping devices at power engineering enterprises can allow for the improved protection of atmospheric air from pollution, as well as permitting the use of the richest sources of sulfur containing raw materials. To put it mildly, due to the inertia of a number of workers at the Ministry of Power and Electrification, the State Planning Committee and the USSR State Committee for Construction this work has been delayed for years.

Here it would be appropriate to mention the statement of V. I. Lenin made by him, according to information of G. M. Krzhizhanovskiy, as far back as 1922: "With the passage of time the 'black spots' of such power plants and other industrial leviathans can trample both arable land and forests, and tread upon the shores of clear rivers. And people will dream about a mouthful of fresh water and clean air. Socialism is unthinkable, is impossible without friendship with nature.... Seriously, think very seriously about this at the State Planning Committee."

In the given instance the ecological problem is closely tied with the national economy not by branch but by overall state interests. It should be understood that at the moment of putting the sulfur trapping devices into operation not only is there a sharp cut in losses caused by smoke fumes, but a new source to obtain a valuable resource appears.

## USSR

### BRIEFS

FODDER FROM INDUSTRIAL WASTE--Scientists and engineers at the Nikolayevskiy hydrolyzed yeast plant in the Ukraine have developed a system for the complete utilization of industrial by-products. Here contaminated industrial effluence is not dumped into open bodies of water but, passing through sewage treatment plants, they are used again in production or go to serve the needs of the neighboring cement plant. The residue derived is dried in a special device and after mixing with feed yeast is used as nutritious cattle feed. This innovation annually yields up to 200,000 rubles of profit for the plant and warrants the expenses for operating the sewage treatment plants. The Nikolayevskiy know-how has received high praise. At the "Preservation of Nature" pavilion at the Exhibition of Achievements of the National Economy of the USSR a scale model of the plant complex has been set up with a detailed technical description of the principles of its operation. The elimination of environmental pollution is not the sole virtue of this system. Scientific calculations show that the use of similar devices allow, on a scale for the entire hydrolytic and cellulose industry, for production of an additional 140,000 tons of nutritious feed annually. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 39, Sep 77 p 8] 8504

NEW ENVIRONMENTAL STATE STANDARD--This year our country introduced a new All-Union State Standard [GOST]: "The Protection of Nature. The Atmosphere. Classification of Waste by Composition." It is the primary standardization document for a system of standards in the field on environmental protection. The document establishes a classification for discarded harmful substances according to their composition from industrial and transportation sources. As a basis of the classification that has been devised, principles have been set down allowing for keeping track of the general properties of substances and for their detection and disposal, as well as for utilization of various equipment. Such a classification permits characterization of waste according to their qualitative and quantitative make-up from every specific source of pollution in all regions of the country. On the basis of this, the necessary standards will be established for effective restraints on discarding contaminants. Technical principles will be developed for creating new or modifying existing equipment, as well as for determining the requirements for dust and gas trapping equipment throughout the country. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 39, Sep 77 p 17] 8504

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GOVERNMENT TO PROMOTE PROTECTION MEASURES FOR WORKERS

Nicosia 0 AGON in Greek 18 Sep 77 p 12

[Text] For the first time, the Ministry of Labor is assuming the initiative in the task of protecting the workers from probable environmental pollution.

This will be carried out through the modification of the relative regulations, which will be discussed on Monday at a meeting of the Labor Advisory Corps under the chairmanship of Minister Spanos.

The ministry's initiative will mainly affect the health conditions of those workers employed in mines and in factories whose industrial products are liable to pollute the environment.

The Labor Advisory Corps will also deal with the following subjects:

- 1) Investigation of the possibility to revise as soon as possible the plan for medical and pharmaceutical care of workers. The suggestion was made by the SEK [Confederation of Cypriot Workers].
- 2) Radical revision of the employment law for longshoremen. A basic proposal now under consideration by the Corps is that the longshoremen's preliminary employment be made through the port authority and not through the agents.

The same proposal also includes a suggestion that the selection of workers no longer be made by the Ministry of Labor, but should be effected through the port authority.

Similarly, the suggestion is made that in the future, the director general of the port authority, and not the sub-prefects, be in charge of the settlement of longshoremen's conditions of employment.

Sources say that, due to the seriousness of the subject, maritime agents may ask for a postponement of the debate, in order to first secure the opinion of experts.



3) Modification of the regulations for acceptable environmental health standards. The Ministry of Labor has completed a study on the prevailing conditions in factories and has suggested a variety of measures to improve them.

8980

CSO: 5000

DENMARK

## GOVERNMENT TO CONTROL BURYING OF DANGEROUS WASTES

Copenhagen BERLINGSKE TIDENDE in Danish 24 Sep 77 p 1

[Article by Carl Hansen: "The Danish Environmental Protection Agency Gives Orders: Buried Poison To Be Tracked Down All Over The Country"]

[Text] The Danish Environmental Protection Agency yesterday decided that a nationwide registration of buried poisons must be carried out. The agency's decision was made on the initiative of Environmental Protection Minister Niels Matthiasen and on the background of the presumed poison case in Ballerup, which BERLINGSKE TIDENDE talked about in the Friday issue.

"We are going to write to those municipalities which we expect have had or has activities involving chemical waste which might have been buried. The municipalities must thus investigate the companies to determine whether they have buried anything. At the same time the municipalities must also go through their own archives if they have any reason to assume that permission has been given for burying wastes. Then we will be able to decide whether the waste is sufficiently dangerous so that it will have to be dug up and destroyed," engineer Kirsten Warnøe of the Danish Environmental Protection Agency, tells BERLINGSKE.

### Three Boreholes For Water Closed.

It was not until 1972 that the present law on disposing of oil and chemical wastes went into force, and the destruction institution Kommune-Kemi in Nyborg was established. The present director for Cheminova, on whose property in Ballerup a search is now being made for drums with poison, told BERLINGSKE on Friday that according to his knowledge of the chemical industry it would be possible to dig everywhere in Denmark and find chemical waste which has been buried completely legally. Today the authorities are looking very seriously at the poisonous material, especially at the risk of polluting the ground water.

The case from Ballerup yesterday led to one more drastic reaction. Copenhagen Waterworks immediately closed three boreholes, which are close to the property in Ballerup. The director of the waterworks, J. Aage Husen, informs us that any pollution of groundwater which is being pumped

up has not been confirmed, but they do not want to take any chances. The three boreholes have therefore been closed, and tests will be taken which will be investigated by the Food Materials Institute and by a toxicologic agency. In order to get a continuous control of the drinking water, an aquarium will be established at the Kildedal pump station. The water pumped up will be passed through the aquarium, and one will then watch how the fish are doing.

#### Possibly Drums With Poison Under Buildings

Ballerup Municipality will as soon as possible start the excavation which will reveal whether drums of poison are lying under those buildings which the Lyfa company constructed after it took over the site from Cheminova in 1956. The work will be both difficult and expensive because the buildings must be reinforced while the digging is being carried out under the concrete cover.

Mayor K. H. Buchardt believes the rumors that drums with poison actually can be found at that place are correct, and an attempt will now be made to find those people who were involved in the building in order to question them. The mayor has also in registered letters requested both the previous director of Cheminova, Gunnar Andreasen, who is now away on a trip, and the present director Arne V. Jensen, to make all information available.

That Cheminova has used burying methods was also confirmed yesterday by Ballerup's previous mayor, the previous Minister of the Interior Ove Hansen. He told BERLINGSKE that Gunnar Andreasen near the end of the 1940's during negotiations of one of the numerous pollution cases which Cheminova gave rise to, admitted that he had buried a couple of drums with chemical waste. The health administration asked him to dig the containers up again immediately.

8958

CSO: 5000

DENMARK

# DIGGING UP WASTE BEGINS

Copenhagen BERLINGSKE TIDENDE in Danish 24 Sep 77 p 1

[Article: "Two Drums Found In Køge"]

[Text] An environmental committee, which Kemisk Vaerk Køge A/S has appointed to comply with the authorities demands on the activity, on Friday carried out digging at several places in a former unloading area, which has also been used for burning drums and used packing.

During the digging at a depth of down to three meters one found only a couple of badly corroded drums, whose contents mixed with dirt will be examined, according to information from the environmental committee.

The reason why digging was started in Køge as early as Friday was that a municipal worker has reported that ten years ago during work with a municipal sewer across this company's site he saw that a digging machine he was operating encountered "a large number of buried drums."

The company says that the administration previously had given permission for investigating whether drums had been buried with chemical waste, but nobody can remember whether this was done.

The digging work will be continued in a few days.

8958

CSO: 5000

DENMARK

## COUNCIL URGES TIGHTER CONTROL OF CHEMICAL SHIPPING

Copenhagen BERLINGSKE TIDENDE in Danish 30 Sep 77 p 8

[Text] Poisonous or otherwise dangerous materials are being transported every day on Danish roads without adequate safety regulations.

This is established in a report developed by a task force, which was appointed one year ago by the Technical Council of the Engineering Association. For air and sea transport and also for railroad transport there are strict international rules for how materials are to be handled which during transport may be dangerous to human beings, animals and environment. But the overwhelming part of this type of materials is being moved from place to place by road.

### Unambiguous Rules Wanted

The task force concludes that there may be some rules, but that these rules are inadequate and the authorities are challenged to introduce unambiguous rules for how dangerous material is to be handled in a transport situation. The task force finds it desirable for Denmark in line with by far the majority of the West European countries to adopt those regulations which hold for international road transport. The group believes that compliance with the regulations can be controlled both in the form of a document, which is developed by the producer and which will accompany the dangerous material to the receiver where this document contains all information about how the material is to be handled, and also by a physical control, e.g., with help from police. The originators of the report also believe that the preparedness of the CF [expansion unknown] corps to counter the effects of an accident be developed with more special material.

### The Simmersted Accident

The problems with road transport of dangerous chemicals were first quite evident in 1972 in the so-called Simmersted accident. A tank car filled with phenol overturned into a waterworks. The drinking water was poisoned, and Simmersted River was polluted for a distance of 50 kilometers, where all fish and bird life died out.

The report from the Engineers Association was the basis for a conference which was held in Copenhagen yesterday. Here the question was discussed and illustrated from several sides with contributions from a number of experts in the fields of transport and legislation.

8958

CSO: 5000

LEGISLATION PROPOSED AGAINST WATER-POLLUTING AGENTS

Athens I VRADYNI in Greek 12 Aug 77 p 11

/Text/ The draft of a law "on the protection of the environment" is being pushed forward in the Chamber of Deputies by the Ministry of Merchant Marine. By this bill, the dumping into the sea of any substance which causes any kind of pollution is explicitly forbidden, and all ships which put into port at Greek harbors will be obligated to dispose of their oil sludge or other waste materials in special areas which will be designated by the local port authorities.

In addition, coastal facilities which are to be used for the refitting of ships or the transfer of oil from one containment to another will have to have available special delivery areas for residues of petroleum products, befouled ballast water, and other polluting substances.

Oil Sludge Measures

Through other provisions of the bill, the following are dealt with:

The establishment or expansion of sea bathing facilities will be permitted only as long as the suitable means of treating pollution are employed and only if suitable purifying of the dirty water produced is ensured.

In transfers of oil, strict measures for preventing pollution will be taken, such as placing of floating weirs around the ships, employment of agents for the absorption and dissolving of any discharged oil, and so forth.

An obligation is imposed on the port organizations and the port fund groups to construct suitable facilities for holding oil sludge, on the basis of the proposals made by the ministry.

The obligations are defined of those responsible for pollution (ship captains, managers of industrial facilities, and so forth) with respect

to taking every appropriate measure for counteracting the pollution, and the penal, administrative, and disciplinary sanctions which will be imposed against them are defined.

Regional pollution-control stations are established at the ports of Piraeus, Elefsis, Salonica, Patrai, Kavala, and Khandia, which will have the task of keeping watch on ships and the maritime area, for the prevention and combating of pollution.

Special professional and technical personnel are being hired by the Ministry of Merchant Marine for the staffing of the Directorate for the Protection of the Maritime Environment and of the regional stations which are being formed.

#### Constructive Use of Fines

Finally, the sums of money which will be collected from the imposition of fines on violators of the provisions of this law will be employed for procuring terrestrial and floating equipment and implements for protecting the maritime environment, the construction of suitable projects, the carrying out of scientific studies, and the arranging of demonstrations and the printing of publications for the enlightenment of the public.

12114

CSO: 4808



BUILDING HEIGHTS TO BE RESTRICTED IN ATHENS SUBURBS

Athens ELEVTHEROTYPIA in Greek 26 Aug 77 p 3

/Text/ By a Presidential Decree which was published in the EFIMERIS TIS KYVERNISEOS (Vol 4, Folio No 279), the building of blocks of flats in Kifisia and Erythraia is now banned.

And this is thanks to the restrictions which are provided by the decree and which only permit the construction of buildings of up to three floors (a height of up to 11 meters). By this decree, public areas of greenery are being established for the first time along the frontages of the houses, through the removal of a portion amounting to 25 percent from the total area of the building lots. These areas will be automatically ceded to the municipalities, without the property owners being indemnified, and they will constitute a unified whole together with the sidewalks. And for the protection of these as greenery areas, their fencing or the building of structures on them---temporary or not---is forbidden.

Furthermore, by this decree:

It is required that there be strips of land, at most 3 meters wide, for the access of pedestrians and wheeled vehicles to each building, but along one of the side boundaries of the building lots, so that the area of public-use greenery is not separated into sections.

The obligatory construction of garages on every building is provided, for the servicing of its occupants. Furthermore, the open space under an elevated ground floor is permitted to be used as a vehicle parking area.

The construction of hospitals and clinics in the Erythraia and Kifisia areas is forbidden, as well as the establishment of gas stations, except along Kifisias Avenue, Tatoiou Street, and the Athens-Lamia state highway (the part which is contained in the boundaries of the respective municipalities).

The area covered by a single building is not permitted to be larger than 700 square meters.

The percentages of coverage of lots in the four town-planning sectors of Kifisia and Erythraia are stipulated to be as follows: Sector One--40 percent, Sector Two--15 percent, Sector Three and Four--70 percent, and Sector Five--40 percent.

Following the implementation of the new building stipulations, the suspending of construction operations in Kifisia and Erythraia, which had been imposed as of 21 December 1976, is rescinded.

12114

CSO: 4808

GREECE

COMMENTS ON POLLUTION CAUSED BY FIRES, EXHAUSTS

Athens ELEVTHEROTYPIA in Greek 27 Aug 77 p 4

/Article by P. Koliopanos/

/Text/ "Some 60,000 stremmas of pine-covered forests have burned in Evvoia. In the Parnassos region, 10,000 stremmas of fir-covered areas have become ashes. In Ileia, 20,000 stremmas of trees and cultivated areas have burned. Almost all of the vegetation in Ikaria has disappeared. Burnt stumps are all that is left of the only forest in Tatoi...." The journalist's hand becomes weary from writing again and again about the pitiless stripping of our unfortunate Greek soil, which this summer assumed the proportions of an insane destruction of every trace of vegetation.

The enormous and nightmarish problem of the incineration--whether it was conscious or not--of the Greek forests is inevitably connected with the more general ecological conditions under which the modern Greek is obliged to live. Conditions connected with an overstrained urbanization, the unbearable polluting of the atmosphere, the distressing consequences of the mass "exoduses" of the urban population: in a word, with the sensitive balance of the Greek environment.

Day by day, living conditions for the modern Greek--especially the resident of Athens and of the large cities--becomes more and more oppressive:

In this Athens of cement and a very meager greenery, the atmosphere is burdened every year with 129,000 tons of sulfur dioxide, 4,000 tons of smoke particulates, and 20,000 tons of nitric oxide, while exhaust gases create a layer a mile thick over the capital! Faliron Bay is an infectious cesspool, and on most of the beaches of the Saronikos Gulf the waste oil which has settled in the sand and among the pebbles mocks the people....

Inevitably, the Athenian, the man of the city, seeks and plans for an "escape" whenever he can: as a rule, on the week-ends. And it is then that our beaches--our "idyllic seashores"--become covered with plastic. Plastic bags, plastic bottles, plastic cups, plastic plates, plastic forks, plastic.... And the same Athenian, when he returns to the beach, will protest heatedly because "they are dirtying up the coasts...." But who explained to the unfortunate excursionist that this plastic is the sort of material--a senseless creature of modern technology--which is not biologically degradable? That is, that nature is not able to absorb it? And it will stay there unalterable on the shore for centuries, a nightmarish carcass of a "pleasant picnic."

Cement and pollution in the city, filth on the beaches, the countryside in ashes. Shabbiness daily tightens around the present-day Greek. Fire being the ultimate digger of the grave of the Greek natural landscape....

Fire which utterly destroys whatever the pick-axe of some Skalistiris or Bodosakis /large Greek enterprises/ does not manage to plough under.

Successive large conflagrations, especially this summer, have devastated the most beautiful forested areas in the country. The culprits are unchecked landgrabbers, unthinking vacationers, and too-clever shepherds.

The landgrabbers, ensconced behind the chimerical protecting of the forests and the mild punishments for their deeds, cause the greatest damage.

As for those poor shepherds--who has explained to them that by their burning of the forests, not only do they not secure pasture lands, but they even lose those which they have? Because the forest, with the oxygen which it produces and with the various organisms which it supports, protects the flora and fauna....

We demand--and very properly so--the making of the forests into national lands, the creation of anti-fire zones in forested areas, substantial strengthening of the fire-fighting force, and more severe penal punishment for firebugs.

But the problem of fires is not an independent one. It is inseparably tied to the problem of pollution which is caused by the industrial complexes--multi-national complexes for the most part--and through this the pollution of the atmosphere and the deterioration of the cultural landscape. The critical issue is synthetically one and the same: The protection of nature, of the environment.

The question which arises is whether the state is assessing the protecting of the environment--by taking it also into account as an item of economic policy--as one of its primary concerns.

In any case, so far it has not persuaded us that it has done anything of the sort.

A howling proof of this: We are perhaps the only country in Europe which does not have an environmental ministry. And indeed, we are a country with an exceptionally sensitive and, we would say, delicate natural balance.

In any case, we should not overlook the fact that the issue of the protection of the environment is in essence a political issue....

12114

CSO: 4808

GREECE

BRIEFS

MAZUT BURN BAN--Beginning on 1 October, the use of mazut for heating is to be forbidden throughout the nome of Attiki and the eparchy of Salonica, except for the area west of the Gallikos River. This ban has been decreed by the Ministry of Industry and Energy for the sake of the protection of the environment from pollution. A relevant allusion to this was made in recent days through circulars sent to all the ministries. /Text/ /Athens TO VIMA in Greek 19 Aug 77 p 1/ 12114

CSO: 4808

SPAIN

## BILBAO AIR POLLUTION REACHES GRAVE INTENSITY

Madrid ABC in Spanish 1 Oct 77 p 15

[Article by J.M. Portell]

[Text] Bilbao, 30 Sep--The Greater Bilbao region, considered by experts to be one of the most polluted in the world, beat its own record today. According to official data in the Erandio district, one of those with the worst environmental contamination, pollution measuring devices showed the following results between 1000 and 1100 hours: 1,536 micrograms of SO<sub>2</sub> per cubic meter.

When one takes into account the fact that 480 micrograms is the maximum figure set by the law as the level of normal tolerance, then one comes to the conclusion that for at least 1 hour, the situation had to be classified as an emergency.

Consequently, the communications media were flooded with calls from persons protesting with comments such as the following: "We are suffocating," or "We have extremely sore throats," or "We feel nauseous."

Fortunately, the level of pollution dropped between 1100 and 1200 hours, going down in the Erandio district to 282 micrograms and providing relief for the population of the area.

The Erandio district was not the only zone to be hit by an alarmingly high level of pollution. It also created crisis situations in Bilbao and the entire industrial zone: Sestao, Luchana, Barcaldo and Basauri.

To date, the record had been set in July, when sensory devices recorded 1,060 micrograms of SO<sub>2</sub>.

In order to have a realistic idea of the degree of environmental pollution in Greater Bilbao, one must realize that not all elements contained in the pollution have yet been detected. The previously mentioned figures are only for SO<sub>2</sub>, only one of the elements.

The excessive pollution was mainly due to the fog, along with the lack of air, which left the "Bocho" without ventilation. The fog also paralyzed the Sondica Airport.

11,464

CSO: 5000

SPAIN

BRIEFS

RED TIDE DETECTED--Madrid, 29 Sep--Early this morning, the Pontevedra provincial health inspector's office announced that macroscopic signs of a red tide have been detected south of the Cies Islands. According to the Ministry of Health, they have penetrated the Pontevedra Estuary. Departments in charge of ensuring control of poisonous substances which paralyze mollusks have overlooked the incidence. Provincial officials have taken the proper measures but to date, results have been negative, the ministry reports.  
[Text] [Barcelona LA VANGUARDIA in Spanish 30 Sep 77 p 13] 11,464

CSO: 5000

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